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**CIA HISTORICAL REVIEW PROGRAM
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1999**

**The Soviet Economy
Stumbles Badly in 1989**



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Information Cutoff Date: 20 April 1990

*A paper presented by the Central Intelligence Agency
and the Defense Intelligence Agency to the Technology
and National Security Subcommittee of the Joint
Economic Committee, Congress of the United States.*

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**DDB-1900-161-90
May 1990**

The Soviet Economy Stumbles Badly in 1989

Summary

Soviet economic problems reached near-crisis proportions in 1989, as severe consumer goods shortages, inflation, and rising social and ethnic violence left Gorbachev searching for ways to put his economic program back on track.

After the economy's disappointing performance in 1987-88, the leadership had hoped for better things last year, especially for a tangible improvement in consumer welfare. Although agricultural output rebounded after a 2-year decline, widespread breakdowns in the transportation and distribution networks interfered with the delivery of all kinds of goods from producers to consumers, causing goods to pile up in freight cars and warehouses instead of reaching store shelves.

Dissatisfaction over inadequate supplies of consumer goods and inequalities in their distribution contributed to rising social tensions and played a role in the growing number of strikes and ethnic clashes. The combination of inflation and shortages made daily life miserable for all but the most privileged segments of society. According to Prime Minister Ryzhkov, some 43 million people, or 15 percent of the population, were living in poverty last year.

Besides having to grapple with rising consumer discontent, the leadership found its investment policy stalled. Completions of investment projects fell, and the backlog of unfinished construction rose sharply. Additions to new capacity were far below plan in many industries, especially in the vital fuel-energy complex, which experienced a dip in total production for the first time since the 1940s. These events were especially bad news for Soviet leaders as they struggled to overcome large and — in many areas — growing technological lags behind the West.

In an effort to increase consumer goods availability, the leadership did move forcefully to enlist Soviet defense industries in the civil economy. After years of asking defense industries to step up their civilian production, Gorbachev announced major force reductions in December 1988 and pledged to convert the freed-up capacity for civil use. In 1989 we observed the first fruits of these actions as overall defense spending fell by 4 to 5 percent in real terms, according to our estimates. At the same time, Moscow claimed that over 400 defense plants and 200 research organizations increased production for the civil sector last year. By the end of the year, these efforts apparently were beginning to pay off in increased production of consumer durables, although output still did not come close to meeting demand.

The Soviets also tried to deal with their consumer goods shortages by boosting imports, particularly for hard currency. Because export growth did not keep pace, however — largely because oil sales tapered off in the latter half of the year — Moscow incurred a \$1.4-billion trade deficit last year and was once again forced to borrow heavily. Gold sales remained brisk for a fourth consecutive year as Moscow sought again to use this option to limit borrowing.

Underlying the economy's sorry performance were a number of familiar problems, as well as mistakes in economic policy and changes in the system itself. In particular, the economic stall-out last year can be traced in part to the abandonment of many "administrative methods" traditionally used to direct the economy from the center without waiting for the "economic levers" needed to guide decentralized decisionmaking to be put in place. State enterprises, for example, often found themselves scrambling to obtain whatever supplies they could from a fledgling wholesale trade system that was not ready for the burden. Similarly, although many enterprises were given greater freedom to produce what goods they wanted, the lack of competition and market prices often resulted in the production of high-priced goods that were not needed or wanted.

In response to the country's deepening economic difficulties, the leadership has initiated a series of "emergency" stabilization programs and has begun to give greater consideration to far-reaching, near-term economic reforms. In March 1989 a Council of Ministers' commission recommended cuts in budget expenditures on investment, defense, subsidies to unprofitable enterprises, and government administration. The economic plan and budget for 1990, adopted in September 1989, embrace these recommendations and also call for a shift of investment from heavy industry to consumer-oriented industries. Finally, last December, the Congress of People's Deputies approved a government economic program that reaffirms this basic strategy and prescribes additional measures to stabilize the economy by 1992.

On the reform front, after several months of continuous debate, the Supreme Soviet in March 1990 passed new laws on property and land use that break with a basic tenet of Marxist-Leninist ideology: that the state represents society as the sole owner of land and the means of production. Shortly thereafter, Gorbachev appointed Nikolay Petrakov, one of the most reform-minded economists, as his personal adviser on economic issues and as head of a new institute on marketization. Then he appointed Stanislav Shatalin, a prominent reform economist, to his new Presidential Council. Meanwhile, a package of 29 measures reportedly is being prepared for early adoption to provide a framework for a more market-oriented economy. Nonetheless, the government's (and the country's) willingness to accept private property and market reforms is by no means assured.

Despite these actions on the stabilization and reform fronts, we see little prospect that the performance of the economy will improve substantially in the near term. The most likely outcome for 1990 is that the Soviet economy will stagnate or decline slightly, output will remain at or below last year's level, inflationary pressures will remain strong, and widespread shortages will persist. Indeed, the economy's performance during the first quarter of 1990 indicates that the administrative measures taken so far as part of the government's stabilization program have failed to take hold and dampen inflationary pressures, while ethnic unrest, if anything, has been more disruptive to the economy than in 1989. Meanwhile, although defense spending should decline again this year as the Soviets continue with the military force reductions and restructuring Gorbachev announced at the United Nations, defense conversion is still in its infancy. The Soviets are unlikely to come close to the 1990 targets they have established for production of consumer goods by defense industry.

Under certain circumstances the economy could deteriorate sharply. The economy is in an unstable state, and a single major event could lead to a substantial drop in output and bring about chaos in the distribution of both producer and consumer goods. Although it is not hard to imagine events that would cause output to drop precipitously — prolonged strikes in key economic regions, ethnic unrest in vital economic regions, or consumer panic that brings hyperinflation — it is more difficult to determine how far the leadership would allow the economy's deterioration to proceed before it took decisive action or what type of action this would be. If the cause of the deterioration is perceived as systemic, it might persuade the leadership to reject the past completely and turn in a much more radical reform direction. On the other hand, widespread strikes and growing regional autarky might lead the leadership to seek more control and a return to a strict command economy. In either case it seems unlikely that increased defense spending would be favored. The leadership would have its hands full regaining control and restoring growth without adding to its defense burden.

Contents

	<i>Page</i>
Summary	iii
Introduction	1
1989: A Poor Year for the Economy	1
Summary Results	1
Consumer Hardships	3
Investment — A Program in Disarray	5
Reduced Priority for Defense	5
Rising Foreign Debt	7
What Went Wrong	8
Unrealistic Planning	8
Policy Mistakes	8
Difficulties of Transition to Reforms	9
Impact of Popular Discontent	10
The Government's Economic Stabilization Program	10
Searching for a New Reform Strategy	12
Outlook	14
Stabilization and Recovery	15
Stagnation or Slow Decline	15
Deterioration	16
The Longer View	16
Implications for Defense Programs	17
Implications for External Economic Relations	18
Appendix A: Assessment of CIA Measures of Soviet Economic Growth	21
Appendix B: Soviet Economic Performance in 1989, by Sector	25
Appendix C: Tables on Soviet Economic Performance	29

The Soviet Economy Stumbles Badly in 1989

Introduction

Last year was a time of turbulence in the Soviet economy as the bill came due for the leadership's failure to address longstanding systemic weaknesses and for mistaken policies followed in the first years of the Gorbachev era. This report will first attempt to explain why the economy finds itself in its present state. It will then describe how the leadership's economic policies have evolved in response to the problems encountered and assess the chances that these policies will be successful.

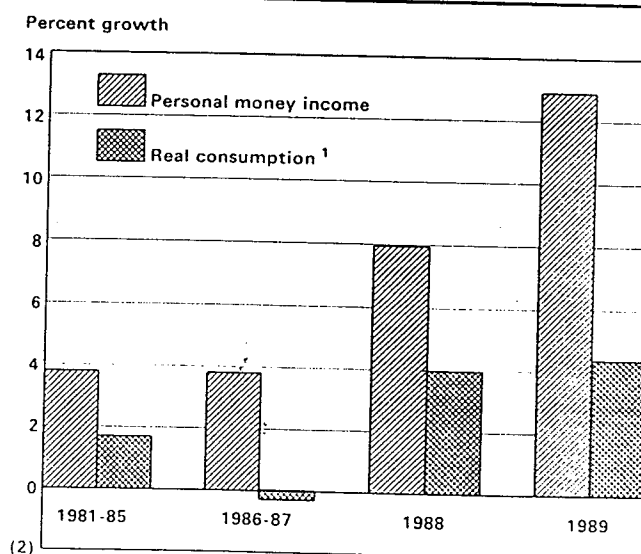
1989: A Poor Year for the Economy

After the economy's disappointing performance in 1987-88, the Soviet leadership hoped for better things in 1989, especially for a tangible improvement in consumer welfare and an easing of inflationary pressures. The 1989 economic plan called for a substantial shift of resources toward the consumer at the expense of defense and investment. While making this shift, the government also launched a major campaign to reduce the newly acknowledged budget deficit and stabilize the USSR's finances.

Summary Results

Economic problems in 1989, however, proved much less tractable than the leadership anticipated. According to our preliminary estimates, industry, construction, and transportation stagnated or declined, and while agricultural output did increase, this marked a recovery from a 2-year decline. Moreover,

widespread breakdowns in transportation and distribution interfered with the delivery of output from producers both to factories and to final consumers. As a result, unintended inventories grew in the form of goods piling up in freight cars and warehouses instead of reaching store shelves. Inflationary pressures also continued to mount, reflecting the impact of rapid increases in budget deficits and the money supply since 1985. The imbalance between consumer demand and supply became particularly acute as growth in money incomes far outstripped increases in the output of consumer goods and services (see figure 1).



¹ The decrease in real consumption in 1986-87 and the increase in 1988-89 in large part reflect sharp changes in legal sales of alcohol as a result of the rise and fall of Gorbachev's sobriety campaign.

Figure 1. USSR: Growth in Personal Money Income and Real Consumption.

These gross macroeconomic imbalances and microeconomic distortions have made our traditional overall quantitative measure of economic performance — GNP — much less informative now than in the past. From the late 1950s to the mid-1980s — when the underlying structure and dynamics of the economy were fairly stable — our summary quantitative measure was a satisfactory shorthand for calibrating year-to-year changes in Soviet economic performance. Since the mid-1980s, the stability of the Soviet economy has progressively deteriorated as the leadership pursued both structural and systemic changes and as the economy reacted to natural and man-made catastrophes, ethnic violence, and indecision and mistakes in fiscal and monetary policy. These dynamics cannot be captured in a summary measure of national output. Comparing economic performance in the late 1980s with that in other periods by comparing rates of growth of GNP misses too much of the story.

Therefore, in assessing economic performance in 1989, qualitative assessments are more revealing than quantitative measures. On the supply side, the Soviet production wheel kept turning, and the good harvest pushed the aggregate production of goods and services to a level almost 1.5 percent higher than in 1988 (see figure 2). But the match between what was produced and what consumers wanted widened considerably. In addition, because of the deterioration in the national distribution network, much of the increase in production found its way into inventories, either at factories, in warehouses, at construction sites, or even in household hoards. (See Appendix A for further evaluation of the GNP measures.)

For a leadership that had come to power with a commitment to revitalize industry, the dismal performance of the industrial sector last year must have been particularly disturbing. Soviet industrial production stagnated in 1989 — its worst performance in the postwar era (see

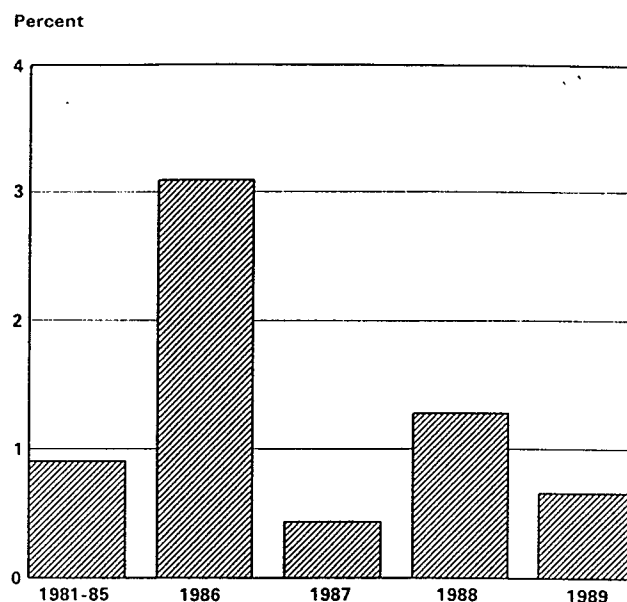


Figure 2. USSR: Annual Growth of Per Capita GNP.

Appendix B for a more detailed discussion of developments in individual sectors of the economy and Appendix C for a statistical wrap-up of Soviet performance). Output of energy and industrial materials fell, interrupting production in other sectors that rely on these essential inputs. Oil output dropped by about 2.5 percent, and coal production also fell, largely because of miners' strikes. Even machinery output — usually the fastest growing category of industrial output — registered zero growth, as a decline in defense production offset the increase in production of civilian goods. Press reporting indicated that many producers were fulfilling their plans by shifting the mix of output in favor of higher profit items and raising prices.

Production of consumer goods did rise last year, but the rate of increase excluding alcoholic beverages was only about 1 percent — barely above the rate of population growth. Although output of consumer durables picked up in the fourth quarter, the machinery sector failed to meet the leadership's ambitious targets for big-ticket items, and passenger car output fell.

Output of clothing, shoes, and most processed foods also grew at painfully slow rates.

Aided by favorable weather in 1989, agricultural output reversed a 2-year downturn. Grain production increased to 211 million tons — about the same as in 1986 and 1987, the last good grain years — and the potato and sugar beet crops were up substantially. Meat output rose by nearly 2 percent, but part of this growth resulted from increased slaughtering because of shortages of livestock feed. End-of-year inventories of cattle, sheep, and goats declined to their lowest levels in 6 years.

Consumer Hardships

Despite Moscow's efforts to increase supplies of consumer goods and services, 1989 was a frustrating year for Soviet consumers who became increasingly impatient for real improvements in living standards. We estimate that per capita consumption rose by about 3 percent, but roughly four-fifths of this growth resulted from sharp increases in sales of alcoholic beverages and in imports of consumer goods.

Even including imports and alcohol, consumption fell far short of the population's demand as money incomes soared by 13 percent, according to official Soviet statistics. The resulting imbalance led to a combination of rising prices — an estimated 6 percent in state retail stores, where price controls are supposedly in force — and proliferating shortages where open inflation was repressed by price controls. The Soviet statistical agency reported that by the end of 1989 the excess purchasing power accumulated by consumers as a result of repressed inflation had climbed to 165 billion rubles, or 40 percent of the annual value of retail sales.

The combination of inflation and shortages made daily life miserable for all but the most privileged segments of Soviet society. The

impact of open price increases was particularly severe for people with low and fixed incomes. Chairman of the Council of Ministers Ryzhkov has said that about 43 million people, or 15 percent of the population, lived in poverty last year. Shortages had the heaviest impact on low-income groups who rely on state stores for the bulk of their shopping needs. Given the pervasiveness of shortages, however, no group was exempt. Last August a Soviet survey of state stores found that only 200 of 1,200 standard consumer goods were readily available; by the end of the year, the number of readily available items fell to 50.

To provide consumers with minimum quantities of scarce necessities, rationing was introduced by local authorities in many parts of the USSR. Special distribution systems, notably food sales at workplaces, also helped individuals with access to obtain scarce consumer goods. The rapid expansion of these special channels, however, reduced the flow of goods to the general public. Consumers without access to special distribution systems had to turn increasingly to the black market and to new cooperative businesses, where prices were much higher than in state stores.

As the difficulty of meeting everyday shopping needs increased, popular discontent rose as well. In 1989 consumer concerns found a new forum in the debates of the Supreme Soviet and Congress of People's Deputies. Official trade unions, seeking worker support, also attempted to establish themselves as spokesmen for consumers by campaigning against price increases in general and high cooperative prices in particular.

The upsurge in crime last year also reflected rising social tensions. The Soviets reported a 32-percent increase in the total number of crimes and a 70-percent increase in the number of thefts and violent robberies. In addition, dissatisfaction over inadequate supplies of consumer goods and inequalities in their distribution played a role in

Inflation in Soviet Consumer Prices

For many years, the statistical services claimed that prices in the consumer market were scarcely rising. Through personal experience, millions of people were convinced of the opposite. Given this situation, society is ready to believe virtually any figure characterizing the rate of price increase as long as it is sufficiently high.

V.N. Kirichenko
Chairman, Soviet State Committee for Statistics

Western experts have long believed that the official Soviet retail price index has understated inflation, mainly by excluding new products introduced at artificially high prices. During the past year, Soviet leaders and statistical officials have acknowledged the deficiencies of this index and admitted that inflation is now a serious problem. The State Committee for Statistics (Goskomstat) is under orders to abandon its flawed methods and calculate a reliable index by June 1990.

According to Goskomstat, its estimate of retail price change in 1989 is based on a Western-style market basket of 700 consumer goods and reflects increases in "new-product" prices (the hidden price increases that take place when a new product only marginally different from an existing product is sold at a substantially higher price). Despite this apparent procedural improvement, the claimed rate of inflation of 2 percent is suspiciously low. In contrast, the CIA calculates that retail prices in state stores and collective farm markets increased by 6 percent last year. Some Soviet estimates of consumer inflation are as high as 11 percent, but most of these estimates apparently reflect rough allowances for repressed inflation as well as actual price increases.

Of the alternative Soviet estimates, those published by the economic research institute of the State Planning Committee (Gosplan) appear to be the most carefully prepared and documented (see table). According to Gosplan, the overall inflationary pressure on consumer prices last year amounted to 10 to 11 percent. About half of this amount consisted of actual price increases, while half reflected repressed inflation — that is, how much prices would have had to rise to eliminate the unwanted additions to savings that occurred last year.

CIA and Soviet Estimates of Soviet Retail Price Change,
1981-89
(Percent)

	CIA ¹	Goskomstat	Gosplan	
			Open Inflation	Repressed Inflation
1981-85	2.2	1.0	1.6	4.1
1986	4.4	2.0	3.0	3.2
1987	2.2	1.7	3.1	4.2
1988	3.1	0.3	4.1	4.3
1989	6	2 ²	5	5.5

¹ Calculated by dividing official Soviet estimates of retail sales of consumer goods in current prices in state stores and collective farm markets by corresponding CIA estimates in constant prices.

² For 1989 only, Goskomstat's estimate includes sales on collective farm markets and by individuals and cooperatives, in addition to state retail sales. They have also acknowledged repressed inflation is running at 5.5 percent.

the growing number of strikes and ethnic clashes.

Investment — A Program in Disarray

Investment's priority claim on Soviet resources — established in 1985 by Gorbachev's industrial modernization drive — ran out last year. Moscow's 1989 annual economic plan called for investment growth to slow to about 2 percent, but centralized funds for investment were later cut in an effort to reduce the budget deficit. As a result, investment spending increased only slightly (0.6 percent), according to official Soviet statistics.

Meanwhile, completions of investment projects fell, and the backlog of unfinished construction rose sharply. Only half of the state-ordered investment projects scheduled for completion last year were finished, and additions to production capacity were far below plan in many industries, especially in the vital fuel-energy complex. Even the high-priority state program for machine building was not fulfilled, a development that must have been bad news for Soviet leaders as they struggled to overcome large — and in many areas, growing — technological lags behind the West (see figure 3).

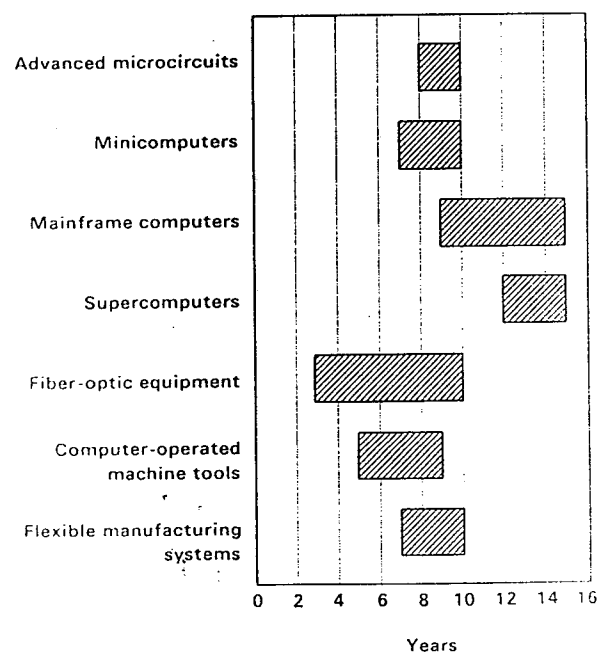
The much-publicized effort to shift more investment to consumer needs also paid few dividends. Despite higher spending on housing and other social-cultural investment, fewer projects were completed in 1989 than in 1988. Moscow blamed local authorities for not meeting the new responsibilities they had been given to oversee these investments.

Reduced Priority for Defense

From his first days in office, Gorbachev had argued that Soviet national security had relied too heavily on military power at the expense of political and economic development. Nevertheless, in his first 3 years in office, Gorbachev did not alter the broad-based military

modernization effort he inherited from his predecessors. Indeed, Chairman of the Council of Ministers Ryzhkov said last year that the original 1986-90 plan called for defense spending to increase faster than national income, or by more than 4 percent per year. By 1988, however, we believe Moscow had concluded that it could not sustain this military buildup. In December 1988 and January 1989, Gorbachev announced that conventional ground and air forces would be reduced and defense spending cut over a 3-year period.

We estimate that the initial implementation of Gorbachev's promised cuts resulted in a 4- to 5-percent real decline in Soviet defense spending last year (see figure 4). Procurement outlays dropped most sharply, while expenditures on personnel and operations and maintenance fell



¹US lead is based on our estimate of the time required for the USSR to achieve series production of technologies like those in series production in the United States.

Figure 3. Approximate Length of US Lead.¹

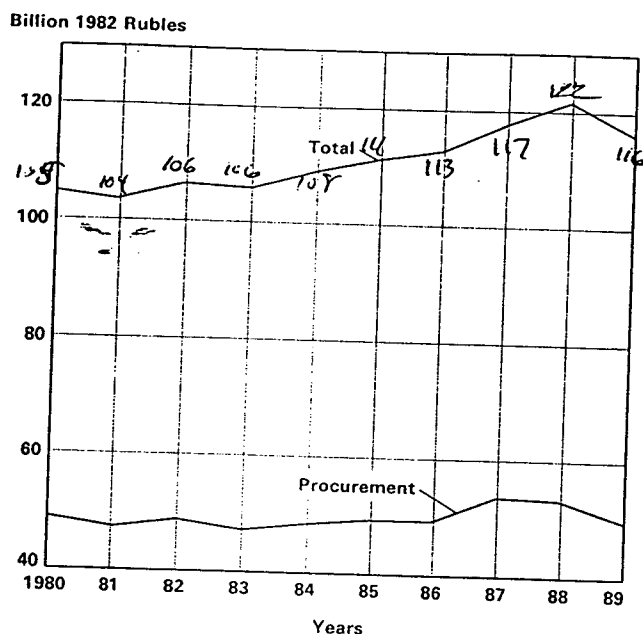


Figure 4. USSR: Estimated Total Defense and Procurement Expenditures, 1980-89.

moderately. The available evidence suggests that expenditures on weapons R&D leveled off in 1989, but this estimate is subject to much greater uncertainty than our estimates of the other components of defense expenditures.

Taking into consideration the changes we observed in Soviet forces and military production, we estimate that Soviet outlays for weapons procurement declined about 6 to 7 percent last year both because of the earlier-than-usual maturation of a number of major weapon production programs and, more important, because of absolute cutbacks on several production lines.

As a result of the ongoing force reductions and restructuring, the largest reductions in procurement were concentrated in general purpose forces, especially in ground forces equipment. Procurement for strategic offensive forces declined by about 3 percent last year, while outlays for strategic defense

Estimating Soviet Defense Spending

Over the past year the Soviets have made a number of pronouncements about their resource commitment to defense. Last May, Gorbachev stated that defense spending in 1989 would be 77.3 billion rubles, and in December the Soviets claimed spending would fall by more than 8 percent to about 70.9 billion rubles in 1990. These figures are substantially larger than the roughly 20 billion rubles per year the Soviets had claimed since the mid-1960s but still only about half the level of spending estimated by the US Intelligence Community. The CIA and DIA as well as some Soviet sources attribute the continued Soviet understatement of defense spending to the exclusion of some defense programs and forces from the budget and the underpricing of military equipment procured by the Ministry of Defense.

Because the Soviet claims are neither sufficiently informative nor persuasive, the Intelligence Community continues to develop independent estimates of Soviet defense spending. The estimating cycle begins in the late summer of each year when teams of experts on Soviet military forces and production are assembled. These teams estimate procurement on a system-by-system basis, analyzing weapon production facilities and tracking equipment delivered to units in the field. Other analysts then apply prices to come up with an initial estimate of total procurement. Other analysts review and correct estimates of military manpower, operating tempos, R&D, and maintenance rates and practices. We have just completed this year's update, and barring new evidence, we will not substantially revise our estimates until next summer.

remained essentially unchanged.

We estimate that Soviet uniformed manpower dropped by about 200,000 last year. As a result, personnel costs declined by 4 percent. Soviet spending on operations and maintenance fell by an estimated 5 percent in 1989, largely because of a decline in the number of space launches and

reductions in the inventories of tanks and aircraft.

Rising Foreign Debt

The USSR's international financial position deteriorated considerably in 1989 as it borrowed heavily for a second consecutive year to finance increased imports, especially of light industrial equipment, agricultural products, and manufactured consumer goods. Moscow looked largely to hard currency markets for its additional purchases, pushing the USSR's hard currency trade balance from a \$2.6-billion surplus in 1988 to a \$1.4-billion deficit last year. Hard currency imports climbed an estimated 23 percent in 1989 to \$35.0 billion. Buoyant export growth early in the year tapered off largely as a result of declining oil deliveries. Oil exports fell about 100,000 barrels per day from the record 4.1 million barrels per day recorded in 1988 because of a decline in oil production, labor unrest, distribution bottlenecks, and lower resales of Middle East oil.

Borrowing to finance import growth and debt service obligations raised the USSR's estimated gross hard currency debt to about \$47 billion at year-end 1989, as compared with just under \$43 billion a year earlier and \$22 billion in 1984. Moscow has added very little to its assets on deposit in Western banks of about \$15 billion during the past 3 years. Soviet net debt, therefore, climbed from about \$11 billion in 1984 to \$32 billion by the end of last year. Although a good portion of the debt buildup in 1986-88 resulted from exchange rate movements as the US dollar fell vis-a-vis foreign currencies in which the Soviets borrowed heavily, the more recent climb primarily is due to new borrowings. Gold sales remained brisk for a fourth consecutive year as Moscow again used this option to limit borrowing.

Worry about the USSR's rising foreign indebtedness intensified in both Moscow and West European capitals as the year passed. The Soviet leadership's criticism of Moscow's

growing debt was addressed by the Congress of People's Deputies last December when that body asked that the 1991-95 economic plan take measures to reduce foreign debt. Western lenders, for their part, also began to pay more attention to the USSR's creditworthiness, despite sizable Soviet assets on deposit in Western banks, gold reserves valued at roughly \$28 billion, and a manageable debt service ratio of about 25 percent. Over the course of 1989, Western bankers decided to tighten credit to the USSR because of the slow pace of domestic reforms, growing unrest in the republics, and lack of financial information on enterprises and foreign trade organizations that have been seeking loans as a result of decentralization but have no credit record.

Moscow's financial situation worsened by the end of the year as a number of Soviet enterprises were late in making payments to Western creditors. Bureaucratic problems and the inexperience of some first-time Soviet traders appeared to explain most of the arrears. Some Soviet enterprises, after winning the right to engage directly in foreign trade, have run up foreign debts, and central authorities have been slow to bail them out when they have been unable to generate hard currency revenues to repay the loans. Bureaucratic infighting over scarce hard currency also may be leaving some enterprises short of funds to which they are entitled.

The USSR found some relief for its domestic shortages in its trade with client states. In 1989, Moscow recorded its second straight trade deficit with Eastern Europe — an estimated \$3.9 billion last year compared with \$2.3 billion in 1988. Meanwhile, Soviet trade with the Chinese was up sharply for the second year in a row, while Vietnam boosted deliveries to Moscow in response to Soviet pressures to narrow its large deficits with Moscow. Some of the East European states, however, grew wary of their accumulating trade surpluses with the USSR and

responded by cutting back on planned deliveries to the Soviet Union.

What Went Wrong

The Soviet economy's poor performance last year can be traced partly to unrealistic planning and partly to mistaken policies. Bad luck also played a role in the economy's poor showing. The Armenian earthquake of December 1988, for example, diverted construction crews from other investment projects and added to the strain on the budget.

Unrealistic Planning

As usual, Soviet economic plans for 1989 set overly ambitious targets for increasing output and conserving inputs. The leadership's goals for converting defense plants to the production of consumer goods and equipment for

consumer-oriented industries were particularly unrealistic. When output predictably failed to reach plan targets, supply shortages — especially of energy and industrial materials — reverberated throughout the economy.

According to the head of the Soviet statistical agency, these supply problems were aggravated by "excessive concentration and monopolies" in industry. Output of diesel locomotives fell, for example, largely because of shortfalls in deliveries by the only manufacturer of crucial electrical parts. Transportation bottlenecks also worsened as the rail system, after years of complaints about the inadequacy of its track and rolling stock, reached the limits of its capacity.

Policy Mistakes

The economy also had to bear the consequences of misguided decisions on the part

Defense Conversion — Slow To Develop

The Soviets talk and write a great deal about their plans to convert defense industries to the production of civilian goods, but when they do so they generally define "conversion" in a very broad fashion. For the Soviets, conversion includes the release of formerly classified technical data, the expansion of defense industry via the subordination to it of hundreds of formerly civil plants, the increase in existing production of civilian goods, and the actual conversion of military production lines to civil products at defense industrial enterprises.

Even under the broadest definition, conversion has proceeded slowly. Production lines are beginning to be converted at only three plants chosen as models and, even there, conversion has encountered delays. The Soviets claim that over 400 defense plants and 200 research organizations have increased production for the civil sector. Until now, however, most defense plant managers have been instructed to increase civil output without benefit of either detailed guidance or additional resources for retooling. As a result, the payoff from all this effort has been far less than planned. Most of the conversion activity detected to date appears to consist of diverting labor and material resources from military to civil production.

Recently, however, the State Planning Committee (Gosplan) presented to the Council of Ministers Presidium its long-awaited plan for defense industry conversion during 1991-95. Although details are still sketchy, Gosplan claims the defense industry's civilian production will double to 110 billion rubles per year between 1988 and 1995. The defense industry is to concentrate conversion efforts on equipment for the food processing, light and medical equipment industries, and on computers, consumer goods, and civil aircraft. It is also to adopt a "dual purpose" rule so that its scientific and technological developments will have both civil and military applications. The plan establishes a scientific research institute for conversion to devise strategy and to solve problems and a marketing center to facilitate transfers of technology and consumer goods from defense industry to the civilian economy. In taking these steps, the plan plays to the defense industry's traditional strengths in development and use of key technologies and to its experience in producing such highly sought-after consumer durables as VCRs and color TVs.

Railroad Backups

The performance of Soviet railroads has deteriorated in recent years, mainly because Moscow has not provided the investment and material resources needed to meet the rising demand for services. Locomotive and rail car modernization programs are years behind schedule, and the track network reportedly is in its worst condition since World War II. Moreover, railroad operations remain grossly inefficient despite the implementation of economic reforms.

Nearly half of the USSR's railroads failed to meet their freight shipment targets in 1989, and rail bottlenecks became massive in the second half of the year. Disruptions from the blockade of Armenia, slowdowns by workers loading and unloading trains, and a surge in demand for shipment of imported consumer goods combined to create what Soviet officials described last October as a "transportation emergency." With seasonal demands to move the harvest and winter fuel supplies already at a peak, the overtaxed rail system had no extra capacity to compensate for these unforeseen problems.

of the Gorbachev leadership. The rising inflationary pressures that plagued the Soviet economy last year, for example, can be traced largely to policy mistakes. In particular, these pressures resulted in large part from the leadership's decision to allow rapidly increasing budget deficits after 1985 (see figure 5), which were financed by an expanding money supply.

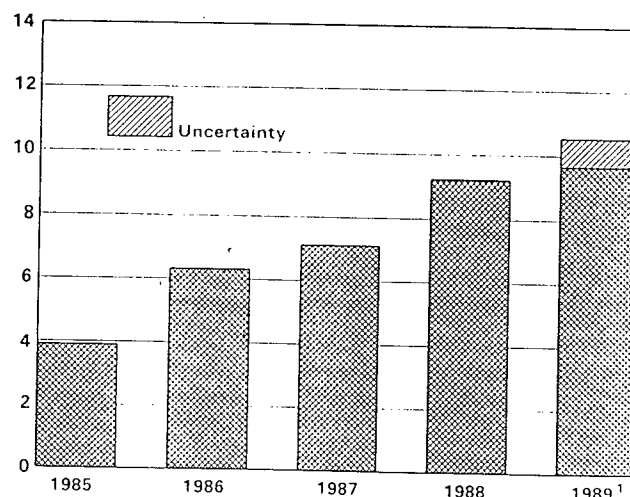
These sharp increases in the deficit reflect primarily stagnating revenues as well as rising expenditures. On the expenditure side of the ledger, subsidies on consumer prices have mounted rapidly, reaching 110 billion rubles in 1989. Spending on defense and investment, especially for Gorbachev's industrial

modernization drive, also increased until last year. In addition, unexpected budget outlays were required to clean up after the Chernobyl nuclear accident and to repair the earthquake damage in Armenia. Meanwhile, revenues from turnover taxes dropped sharply as a result of Gorbachev's anti-alcohol campaign, and the budget's share of export earnings fell when world market oil prices collapsed. Budget receipts from profits leveled off because of economic reforms that allowed enterprises to retain a larger share of profits to finance more of their own investment.

Difficulties of Transition to Reforms

Another and more important reason for last year's economic stall-out was that the leadership abandoned many of the "administrative methods" traditionally used to direct the economy from the center before the "economic levers" needed to replace them were in place. By all accounts the implementation of the economic reform package adopted in 1987 played a key role in the disruptions of production and

Percent of GNP



¹ The range in the 1989 estimate reflects uncertainty about the legitimacy of some of the revenues reported for that year.

Figure 5. USSR: Estimated State Budget Deficit.

distribution that occurred last year.

In particular, serious problems surfaced when most state enterprises began operating under new rules requiring "self-financing," which placed them under greater pressure to earn profits. As part of the transition to the new regime, enterprises were given greater control over their output mix, the prices of new products, wages, and the bonuses awarded to workers and managers. Thanks to a reduction in the number of centrally mandated output targets, called state orders, enterprises were often able to exercise this authority to produce more items that brought high prices and high profits. Given the lack of competition in the Soviet economy, however, those items were not necessarily what purchasers wanted or needed. To make matters worse, the central allocation of industrial supplies also was cut back, often leaving enterprises to hunt for supplies from a fledgling "wholesale trade" system that was not ready for the burden or to work out barter agreements with each other.

Gorbachev's economic reforms also contributed to the chaos in consumer markets. Greater enterprise autonomy, for example, was responsible for the rapid rise in workers' incomes as enterprises raised wages and used their growing profits to pay bonuses, sometimes by diverting money from funds earmarked for housing and other social-cultural purposes. With supplies of consumer goods and services lagging behind, it was easier for cooperative and individual entrepreneurs — and black marketeers — to charge whatever the market would bear. As a result, cooperatives became the target of widespread popular resentment, which led to restrictions on cooperative activities and prices.

Impact of Popular Discontent

According to the official Soviet report on economic performance in 1989, the erosion in labor discipline and record losses of work time — resulting from workers' frustration over shortages, strikes, and ethnic unrest — also were

major factors behind the economy's poor showing last year. A team of Soviet researchers calculated that the number of strikes reported in the press rose from two dozen involving a few thousand workers in 1987-88, to more than 500 involving several hundred thousand workers in the first 7 months of 1989. The decision in 1987 to permit workers to elect enterprise management also played a role in weakening labor discipline and promoting wage growth as more compliant managers replaced their more unbending predecessors. And, throughout the year, ethnic tensions disrupted production and transportation.

Environmental concerns also forced shutdowns of factories in many parts of the Soviet Union last year. Many of these closures were carried out with little recognition of the impact they would have on supplies of vital industrial inputs. As the economic consequences of those plant closings have become apparent, the government has reversed itself in a number of cases. In February 1990, for example, the Council of Ministers ordered regional authorities to reopen plants supplying raw materials needed to produce medicine.

The Government's Economic Stabilization Program

The Soviet government has responded to inflationary pressures and the disarray in consumer markets with a series of "emergency" programs. In March 1989 a Council of Ministers' commission recommended cuts in budget expenditures on investment, defense, subsidies to unprofitable enterprises, and government administration. At the same time, the commission called for increases in domestic production and imports of consumer goods, both to improve supplies and to augment budget revenues. The economic plan and budget for 1990, announced in September 1989, reinforced these initiatives and also shifted investment from heavy industry to consumer-oriented industries and services, especially housing. Last December, the Congress of People's Deputies

approved a government economic program that reaffirmed the strategy adopted earlier and prescribed additional measures to stabilize the economy by 1992. The major objectives of this program are to:

- Increase the production of consumer goods and services by 10 to 12 percent per year during 1990-92. To meet these targets, Moscow is diverting resources from defense and investment in heavy industry and counting on major gains in productivity and efficiency.
- Slash the budget deficit from about 10 percent of GNP in 1989 to 2 or 3 percent of GNP by 1992. Budget expenditures are to fall with cuts in defense and investment, and revenues are to increase because of turnover taxes on the rising output of consumer goods.
- Finance the budget deficit in less inflationary ways than in the past and soak up excess purchasing power in the hands of the population. Thus, the government plans to sell bonds mainly to banks and enterprises and warrants for durable consumer goods to the population, which will pay cash in advance for guaranteed delivery in 1993. Local authorities are to organize sales of state-owned apartments and land for *dachas*.
- Tighten administrative controls. The government is expanding state orders, especially for consumer necessities, and is limiting exports of consumer goods in short supply. Increases in payments from wage funds are to be taxed heavily if they exceed 3 percent, and price ceilings are to be strictly enforced for a long list of consumer goods.

The government's program has several positive features. Accelerated imports of consumer goods, for example, should provide some quick relief from shortages and buy time for the Soviets to complete the process of reorienting domestic production to consumer

needs. In addition, the diversion of resources from defense to consumption is long overdue. The priority allocation of the USSR's best talent and highest quality inputs to the defense sector has been a major drag on the economy for years. Similarly, efforts to economize on new investments make sense, given the large volume of construction already underway. Finally, the return to heavy reliance on state orders, although a backward step from reform, could prevent some of the cutbacks in output of inexpensive goods that occurred last year.

All of that said, the program has major flaws which, in our judgment, not only will severely limit its effectiveness but also could give rise to new and serious problems. Given the backward state of Soviet consumer industries, their production record in recent years, and the sluggish pace of defense industrial conversion, the ambitious output targets for 1990-92 probably are far out of reach. With production of consumer goods falling short of plan, moreover, revenues from turnover taxes on these goods are also likely to be lower than projected, thus hampering the government's efforts to reduce the budget deficit.

Worse still for the economy, Moscow's crash campaign to shift investment from heavy industry to consumer-related projects could leave the producers of energy and raw materials without enough resources to maintain output at current levels. Unless there are major improvements in the efficiency with which energy and materials are used, supply shortages will translate quickly into declining production of both consumer and investment goods. When Soviet officials reduced the growth of investment spending in the mid-1970s, bottlenecks proliferated, and industrial growth slowed markedly. Now, when the Soviet economy is in a weaker condition than in the mid-1970s, the consequence of investment cutbacks could be more serious. Reductions in energy investment, for example, could precipitate a fall in oil production. The government's program counts

on decentralized investment to make up for some of the cuts in centralized funds, but energy producers will be unable to finance major investments until they receive higher prices for their output.

Plans to finance the budget deficit by selling securities that will tie up purchasers' funds — rather than by increasing the money supply, as in the past — also do not appear to hold much promise. The chairman of the Soviet State Bank has said that the 5-percent interest rate on securities being sold to enterprises is too low to attract purchasers for the 60 billion rubles of bonds the government hopes to issue this year. Sales of warrants for durable consumer goods are projected to bring in only 5 to 10 billion rubles — enough only to draw away a small part of the excess purchasing power in the hands of the population. In our view, sales of state-owned housing and land for *dachas* could soak up a great deal of money, but local authorities have been slow to make the necessary arrangements.

Another serious weakness of the government's program is that the wage and price controls on which it relies so heavily are unlikely to be effective. Personal incomes in the first 2 months of 1990 were 15 percent higher than in the same period of 1989 as enterprises found ways to evade the government's various attempts to curb wage increases. Controls on the prices of essential consumer goods and services have fared little better, and to the extent that such controls do hold down prices, they will only worsen repressed inflation and its attendant shortages.

Even without the design flaws just described, the government's economic stabilization program could run into difficulties. Pressures for government spending, especially on social welfare, are likely to rise, and Moscow's ability to control such spending could weaken as more economic powers are delegated to republic and local authorities. Similarly, enterprise expenditures on decentralized investment have risen rapidly in the last few years and in the

absence of effective monetary and fiscal controls will continue to add to inflationary pressures on the prices of construction work and investment goods.

Searching for a New Reform Strategy

As the government concentrated on restoring stability to consumer markets, economic reform lost much of the centrality it earlier seemed to have enjoyed on the regime's economic agenda. Although the economic problems that characterized 1989 provided the impetus for a rethinking of Moscow's approach to reform, rethinking has not yet led to action. At the beginning of 1989, Leonid Abalkin, a prominent reform economist with ties to the Soviet leadership, was made deputy premier of the Council of Ministers and put in charge of a new Economic Reform Commission that has ministerial status. The Economic Reform Commission immediately began to draft legislation on property rights, land use, taxes, enterprise rights, regional financial autonomy, local economic management, and other issues where action was needed to create the legal and institutional underpinnings for a more market-oriented system. By the end of the Supreme Soviet's autumn session, however, agreement had not been reached on many of the new laws, and only one law — on leasing — had been passed.

By October, Abalkin and his reform commission also had prepared a blueprint for moving toward more market-oriented reforms. This reform strategy clearly put price deregulation on the legislative agenda, supported the development of markets, and recognized the importance of property rights. It included a timetable indicating that the bulk of the transition would occur in 1991-92 and that the entire process would be completed by the end of 1995. Gorbachev actively campaigned for this program, and he chaired a Central Committee meeting and a joint academic-government conference that were convened to build support

for it. Neither meeting, however, was able to attract much backing for the program, and Abalkin expressed surprise at the amount of opposition to the goal of a market-oriented economy.

In December, when Ryzhkov presented the reform blueprint to the Congress of People's Deputies as part of a 6-year economic program, the blueprint had been watered down and the schedule for its implementation had been drawn out. Moreover, the emphasis had changed from economic reform to stabilization through traditional administrative methods of central control before proceeding to a more market-oriented system. Whether Gorbachev supported the revised program is unclear. He was notably silent during the legislative debate, and 2 months after it had been adopted, he publicly called for an acceleration of economic reform.

Deputies who opposed the delay in the reform gained some ground when Gorbachev won approval of a resolution calling on the Supreme Soviet to expedite the stalled legislation on property rights, land use, taxes, enterprise rights, regional financial autonomy, and local economic management. Still, it was several months before the legislation was revised and reintroduced. In March 1990 the Supreme Soviet finally passed new laws on property and land use and proceeded with its work on the other laws.

The legislation on property and land breaks with a basic tenet of Marxist-Leninist ideology: that the state, acting as the representative of the people, is the sole owner of land and the means of production. The property law gives equal recognition to three broad categories of ownership — state, collective, and individual — and although stopping short of using the term "private property," it sanctions a wider range of private economic activities than had been permitted previously and deprives the state of a legal basis for arbitrary interference in the activities of nonstate enterprises. The new law

The New Property Law

The new property law liberalizes the old law by giving property rights to individual businesses, farmers, cooperatives, and joint stock companies that are commensurate with state property rights. This protects nonstate businesses by depriving the state of a legal basis for confiscation of their property and arbitrary interference in their activities. The new property law, however, does not explicitly condone or use the word "private property," and its implementation will require the development of procedures to ensure the fulfillment of contracts, determine liability, and protect property rights in the courts. Procedures to determine property values and rents also must be worked out until markets are developed.

Citizens

- Can own their own apartment or house. Renters have the right to purchase the state apartments they live in.

Individual Businesses

- Can own and sell equipment, workshops, buildings, and vehicles used in running small businesses and farms.
- Do not own the land; therefore, they cannot sell, mortgage, or give it away.
- Cannot "exploit labor," which could mean they cannot hire labor. However, it may be possible to hire labor on a contractual basis.

Farmers

- Do not own the land; therefore, they cannot sell, mortgage, or give it away. However, they can retain land during their lifetime and pass tenure on to their heirs.
- Can hire a nominal number of non-family workers.

Cooperatives

- Can acquire the right to use land either for an open-ended period or a fixed term.
- Can hire people without limits.

permits lifelong tenure by peasant farmers and grants them the right to pass this tenure to their heirs, although they cannot sell, mortgage, or give it away. The law could lead to a substantial shift toward private farming in the Baltic states and the Caucasus where there is a tradition of family farms and strong local support for private farming. But it will not lead to a widespread dismantling of state and collective farms.

As the new economic program was being developed in late 1989, the economy clearly was in serious trouble. Prompted by this, and persuaded by reform-minded economists, Gorbachev apparently decided that the Ryzhkov reform blueprint was inadequate. Gorbachev signaled his inclination toward more radical economic reform by appointing Nikolay Petrakov, one of the most reform-minded Soviet economists, as his personal adviser on economic issues and as head of a new institute on marketization. Petrakov has since been publicly campaigning for faster progress toward a market economy. In a series of interviews, he has advocated removing price controls for almost all categories of products and dismantling government ministries through the sale of their capital assets to stockholders. He also has called for widespread cooperative ownership of housing and introduction of a parallel hard currency ruble.

The Soviet government and the new legislature have been unwilling to pass reform and stabilization measures that are unpopular with constituents. Although the Supreme Soviet has laid the groundwork for reform by passing key legislation on property rights and land use, it also has imposed a number of new restrictions on cooperatives and refused to pass a tax on the sale of beer and tobacco that would have helped reduce the budget deficit. The Council of Ministers also has backed down when official trade unions protested against measures that would have required price increases. It postponed wholesale price increases on energy and transport set for 1 January and is working

out a program to compensate workers for wages that will be lost when higher prices reduce enterprise earnings. It also agreed to scale back plans to auction, presumably at very high prices, quality consumer goods in high demand and short supply.

This repeated backtracking and hesitation to proceed with reform may have helped convince Gorbachev to take matters into his own hands. In his March inaugural address, Gorbachev declared that his first priority as president would be to radicalize and accelerate economic reform, and he called for a "full-blooded domestic market" and a dismantling of the bureaucracy. He alleged that the economy could not get by without price reform, wholesale trade, reduced reliance on state orders, and the creation of financial markets. He said he would issue presidential decrees that specify the required changes, responsible officials, and the timeframe for implementation because "laws won't work by themselves."

Gorbachev may be moving quickly on his promise to speed up the economic reform process. A package of 29 measures reportedly is being prepared that would provide the basis for a market-oriented economy. It deals with such issues as price reform, banking reform, demonopolization, the expansion of stock and share-owning arrangements, denationalization of property, and steps toward ruble convertibility. The package apparently includes measures that will be issued as presidential decrees as well as those that require Supreme Soviet approval.

Outlook

Given the extent of the economy's problems and the inadequacy of the leadership's response thus far, the economy's performance in 1990 is likely at best to remain at the 1989 level or deteriorate slightly, and under certain circumstances it could worsen rapidly. It is only remotely possible that the economy could stage a recovery. In the sections below, we review the

evidence for our view that the economy's near-term prospects are poor and identify the factors that might lead the economy's performance to be substantially worse or substantially better than we project.

Stabilization and Recovery

The three major factors behind the poor Soviet economic performance in 1989 were the growing imbalance in consumer markets, supply and distribution problems, and, simply, bad luck. If we assume simultaneous improvement in these areas, GNP growth of perhaps up to 3 percent could be achieved. The first necessary ingredient is good luck — that is, factors completely beyond the control of the leadership. This would include a good harvest of grain and other major food and feed crops; an absence of natural or man-made calamities, such as the Armenian earthquake and Chernobyl; and a minimum of economic losses from labor and ethnic strife.

Some success in correcting the severe imbalance in consumer markets also is needed to restore work incentives and the value of the ruble. Bolder stabilization and reform programs could accomplish this objective by reducing demand and/or increasing the supply of goods and services. The agenda might include:

- A currency reform that would reduce the monetary overhang and repressed inflation.
- Selective increases in retail prices (with or without compensation) and wholesale price revisions that would reduce subsidies and improve economic signals and incentives for both producers and consumers.
- Increased production of consumer goods reflecting initial payoffs from defense conversion and priority resource allocation and the delivery of imported consumer goods.
- Strict controls over enterprise payment of wages and bonuses.
- The removal of restrictions recently

imposed on cooperatives, especially on wholesale traders.

A better balance in the supply and demand for consumer goods would reduce hoarding, free up additional supplies for sale, and halt the spread of rationing. The leadership also could take measures specifically aimed at increasing output. In a seller's market, monopoly producers have been able to refuse state orders with impunity and raise prices to compensate for lower output. The government could levy harsher penalties to punish those producers who raise prices and renege on state orders.

Stagnation or Slow Decline

We believe, however, that the Soviet economy will at best stagnate in 1990: output will remain at last year's level or decline slightly, inflationary pressures will remain strong, and widespread shortages will persist. This judgment is based primarily on our assessment of the recent performance of industry, construction, and transportation and on the likelihood that agriculture will be unable to contribute much to growth in 1990. Most important, the policies being pursued by the government are unlikely to effect a turnaround in any of the factors that caused last year's poor performance. Indeed, the economy's performance in the first few months of 1990 indicates that:

- Administrative measures are failing thus far to curb enterprise tendencies to go their own way; enterprises continue to subvert the intent of the 1987 reforms by raising prices, paring output, and increasing wages.
- Defense conversion and increased allocation of resources to the consumer goods industries, while beginning to yield some positive results, have not been enough to restore balance to consumer goods markets.
- Ethnic unrest has, if anything, been more disruptive to the economy than in 1989. The number of workdays lost from labor and ethnic disturbances during the first 2

months was higher than in all of 1989.

- Complaints about too many construction starts and shortages of investment goods persist, making it unlikely that unfinished construction will decline substantially.
- The still-large budget deficit and continuing wage increases are increasing inflationary pressures.
- Consumer shortages, together with fears of retail price reform and a currency changeover, continue to feed consumer discontent and the flight from the ruble.
- The leadership's concern about hard currency constraints and the USSR's creditworthiness make it unlikely that the government will relieve consumer discontent by importing large amounts of consumer goods.
- Regions continue their slide into autarky, increasing bottlenecks and hoarding.

Because weather has been mild this winter, farm output may again be a bright spot in 1990. Because 1989 was a good agricultural year, however, more than another good year will be needed if agricultural performance is to support an increase in food supplies.

Although Gorbachev apparently realizes that his policies are not working and must be corrected, the continued dominance of the bureaucracy in the commissions responsible for drafting the reform legislation argues for caution in assessing the prospects for decisive action on the economic reform front. Moreover, even if the package is enacted, it is not likely to have a large impact on growth in the near term; the package reportedly will not be completed until May and not implemented before July. Indeed, a very radical program could have a short-term destabilizing effect on economic growth until the kinks are worked out and all economic units adjust to the new conditions. A sudden decontrol of prices, for example, certainly would bring rapid inflation.

Deterioration

We judge that there is a reasonable chance that the economy could deteriorate markedly. It is in an unstable state, which many Soviets describe as a crisis. A single major event or series of smaller, linked events could push the economy over the edge into sharp deterioration; that is, a substantial drop in output (perhaps 20 percent over a year or two) and lead to chaos in the distribution of both producer and consumer goods. Possible catalysts for such a deterioration would be:

- Strikes in such key economic sectors as fuel and power and transportation.
- Ethnic unrest in such vital economic regions as the Ukraine.
- Regional economic autonomy that turns into pervasive autarky.
- Consumer panic that brings hyperinflation and greater reliance on barter trade.
- Sudden and complete marketization (decontrol of prices, abolition of ministries, and privatization).

Although we believe these events certainly could push the economy into a downward spiral, it is more difficult to determine how far the leadership would allow the economy's deterioration to proceed before it took decisive action or what type of action this would be. If the cause of the deterioration were perceived as systemic, it might convince the leadership that the best strategy is a complete rejection of the past and a turn toward a much more radical reform direction. On the other hand, strikes and regional autarky might lead the leadership to try to exercise more control and attempt to restore a command economy.

The Longer View

Although there is little Gorbachev or any other leader can do this year to accelerate economic growth, we believe that the leadership could begin to lay the foundation for longer term

improvements. In our view, a recovery program must go beyond stabilization and embrace reform measures, such as:

- Wholesale price reform that raises energy and raw material prices and lowers machinery prices and allows them to fluctuate in response to changes in supply and demand.
- Retail price reform (with partial compensation) that reduces government subsidies and gives more rational economic signals to both producers and consumers.
- Banking and fiscal reforms that give the government control over monetary aggregates, while preventing arbitrary confiscation of enterprise profits.
- The breakup of large enterprises and encouragement of new entry into the sectors of the economy dominated by a few firms.
- A much greater role for long-term leasing in agriculture.
- The removal of restrictions on cooperatives and private businesses, especially those on wholesale traders.
- Development of a wholesale supply network.
- Elimination of the branch ministries.

This is a tall order, however, and policies that promote economic recovery and a more dynamic economic system able to compete in the international arena do not necessarily coincide with a more stable political environment and a more contented populace. Many reformers argue that the strength of the antireform forces in the Soviet Union today precludes the Polish reform model, where necessary but painful economic policies like price hikes and wage controls can be implemented boldly because citizens trust the government. Instead, some reformers say markets must be introduced with an iron fist to force compliance from the government bureaucracy and to control social upheaval. In any event, no centrally planned economy has as yet successfully made a complete or smooth

transition to a market economy. In this sense, Eastern Europe, China, and the Soviet Union face an uncertain and probably prolonged period of trial and error.

Even if economic reform is implemented in the USSR over the next few years and social and political disruptions are kept to manageable proportions, the benefits will accumulate slowly. Greater equilibrium in producer and consumer markets should be apparent early on. It will take longer for managers and workers to adapt to a new array of incentives and still more time — probably not until the next century — for the Soviet Union to carry out the structural changes necessary to modernize the Soviet capital stock and produce world-class civil products on a broad scale.

Implications for Defense Programs

Whatever the Soviet economy's prospects in the longer term, further reductions in military spending are almost certain in 1990 and 1991. Moscow continues to reduce and restructure its forces; the economic urgency of reducing the burden of defense shows no sign of abating. Trends in force structure and leadership statements suggest that the Soviets plan to procure smaller numbers of aircraft, tanks, infantry combat vehicles, strategic missiles, and other military hardware during 1991-95 compared with the previous 5-year period. Long-term cuts in procurement, stocks of weapons, and especially in military manpower will be even more substantial if future Soviet force levels are constrained by Conventional Forces in Europe and Strategic Arms Reduction Talks agreements. Some preliminary guidelines set out for the next 5-year plan, however, suggest that the leadership hopes to stabilize or even increase expenditures for procurement after 1991, although this may reflect only an increase in unit prices. On balance, most indicators point to continued conversion and further reductions in defense spending through 1995.

Despite the problems encountered so far in defense industrial conversion, the Soviet leadership remains strongly committed to converting defense industrial resources to civilian uses and expects that conversion will play a vital role in boosting welfare. Chairman of the Council of Ministers Ryzhkov recently declared that Moscow would give the defense industry 350 million rubles to help defray the costs of "reprofiling" 100 defense plants and shifting 500,000 workers from military to civil work in 1990. The Soviets are debating different options for implementing conversion. More specifically, they are weighing the benefits of fully converting many defense facilities versus partially converting these plants, boosting civil production on existing lines, or constructing entirely new civil plants. Whatever path the leadership chooses, the conversion program's ambitious targets for consumer goods production are unlikely to be met, although more production capacity will become available to the civil sector.

Implications for External Economic Relations

Whether the economy stagnates or declines, the Soviets will continue to pursue an expanded role in the world economy. For the near term at least, however, Moscow will continue to be shackled by hard currency constraints and will be reluctant to repeat the mistakes of the 1970s, mistakes made by both the USSR and many East European countries when imports of costly Western equipment and technology did not stimulate economic growth or narrow the East-West technological gap. As a result of these constraints, Moscow's initiatives are likely to be focused on obtaining Western technical assistance to make the Soviet Union a more efficient and cost-effective player, although not necessarily a larger one. If continued consumer shortages and discontent require increased imports, however, the Soviets still have some options. They could use some of their hard currency reserves, increase exports of timber and fish, sell additional gold and diamonds, sell obsolete military hardware (especially

decommissioned ships and submarines) as scrap, and pressure military clients to repay their debts in some combination of hard currency or increased exports to the Soviet Union.

Moscow's pursuit of membership and agreements — or at least greatly stepped-up contacts — with various international organizations (particularly the General Agreement on Tariffs and Trade, the European Community, and the International Monetary Fund) is central to its efforts to expand its role in the world economy. Some progress was registered last year when Moscow signed a trade accord with the European Community and received support from the United States for eventual observer status in the General Agreement on Tariffs and Trade. The Soviets believe that association with such institutions will provide "technical expertise" to help implement economic reforms and enhance the competitiveness of their products. The USSR also will look for further improvements in bilateral relations; last year, for example, it concluded a number of investment treaties and began direct trade with South Korea, and it is now negotiating trade and investment treaties with the United States. Finally, Moscow probably will soon initiate further reforms in the foreign trade sector, such as establishing free economic zones, changing joint-venture legislation, and taking some first steps toward ruble convertibility. The success of these foreign economic measures, however, will depend on the degree of systemic reform in the domestic economy.

Elsewhere, the Soviet leadership is trying to free up resources for the domestic economy by cutting its cost of empire. In Eastern Europe, the Soviets essentially have decided to let these countries look westward, not only to reduce near-term subsidization of their economies but also to benefit over the longer term from technological improvements in the goods they provide the USSR. The pace of change in Soviet-East European economic relations has

been hectic, as evidenced by the Council for Mutual Economic Assistance's increasing irrelevance as a trading organization and the movement toward hard currency trade at world market prices. According to some Soviet calculations, such a changeover would increase the USSR's hard currency earnings by \$10 billion a year, assuming existing trade patterns persist. Even though these patterns will change, heavy trade dependencies and the difficulty Eastern Europe faces in making both the structural changes and reforms needed to integrate with the West suggest that East European bilateral economic relations with the Soviet Union will remain important.

In the Third World, Moscow almost certainly

will cut back on politically and strategically motivated aid to client states. Over the past year, domestic criticism of Soviet foreign aid policy has intensified, and critics have lamented its wastefulness while citing domestic shortages and the budget deficit as reasons to reduce aid. Moscow is likely to honor commitments but will attempt to reduce its burden by trying to ensure that aid is better utilized, insisting that aid recipients increase compensation for aid already provided, and urging client states to look more to Western assistance. For Moscow to realize any significant savings in the Third World, however, deliveries to Cuba and Vietnam — which together gobble up more than 50 percent of annual Soviet economic aid flows — will have to be reduced.

Appendix A

Assessment of CIA Measures of Soviet Economic Growth

CIA Estimates of Soviet GNP

Western specialists on the Soviet economy have argued for years that Soviet measures of macroeconomic performance exaggerate real growth, poorly reflect actual patterns of resource allocations, and do not allow meaningful comparisons with Western data. For these reasons the CIA constructs estimates of the size, structure, and growth of the Soviet economy using Western GNP definitions and concepts. The procedure is to develop a detailed set of accounts for a base year (currently 1982) and then move the components over time with indexes that reflect changes in real output. Historically, CIA estimates of rates of Soviet growth are well below those which the Soviets officially claim to have achieved.¹

Sector-of-Origin Indexes

Indexes of output for the individual producing sectors, such as industry, agriculture, and services, are based for the most part on samples of products or activities measured in physical units.²

However, published Soviet measures based on ruble values in allegedly constant or, in Soviet parlance, "comparable" prices also are used to estimate growth for some products. Although there are reasons to doubt that these ruble measures have been properly deflated, we employ them to obtain more complete coverage and to include new and complex products for which physical quantities either are unavailable or would fail to capture changes in quality and mix. The following tabulation shows the percentage share of sample data represented by physical units and value data in 1982:

	Physical Units	Value Terms
GNP by sector of origin	90	10
Of which:		
Industry	82	18
Agriculture	100	0
Services	90	10

¹CIA's methodology of computing Soviet GNP has been documented in Joint Economic Committee, US Congress, *USSR: Measures of Economic Growth and Development, 1950-80* (Washington, D.C.: US Government Printing Office, 1982) and Joint Economic Committee, US Congress, *Measures of Soviet Gross National Product in 1982 Prices* (Washington, D.C.: US Government Printing Office, forthcoming).

²The Soviet Union recently began to publish its own GNP calculations. In 1985, for instance, the Soviets estimated that their GNP was equal to 777 billion rubles — as compared with CIA's estimate of 782 billion rubles.

End-Use Indexes

Indexes of output are also calculated for the major end uses of GNP. As with the sector-of-origin indexes, most end-use indexes are based on data in physical units. The magnitude and growth of Soviet military expenditures in rubles are estimated independently and do not rely on Soviet statistics. A direct costing (building-block) approach is used that requires the identification and enumeration of the physical elements constituting Moscow's defense effort over time and the application of cost factors to them. The percentage shares of the end-use sample represented by physical units and value data in 1982 are as follows:

	Physical Units	Value Data
Consumption	83	17
Investment	60	40

While CIA estimates imply that the economy grew last year, if one looks behind the numbers, it is clear that the economy is performing poorly in many ways:

- While the production of consumer goods and services has increased, Soviet citizens have ample reason to believe living conditions have become much worse because not all these consumer goods being produced are reaching the market and because the far larger increase in money incomes has led to an extreme imbalance between demand and supply in the consumer economy. As a result, inflation is continuing, and long lines, chronic shortages, hoarding, and rationing have become commonplace, along with widespread diversion of supplies from state stores to special distribution systems.
- Investment spending is increasing but is being wasted as local authorities disperse resources over an enormous number of new projects while ongoing projects stand unfinished. This increase in unfinished construction is reflected in additions to inventories in our estimates of GNP for 1989.
- The regime's control over the economy has declined as a result of half-hearted moves toward the creation of a more market-oriented system.

Comparing Soviet GNP with US GNP

To make estimates of the comparative size of Soviet and US GNP, the CIA methodology begins with estimates of Soviet GNP in rubles and US GNP in dollars. The various components of each of those two estimates are converted into the other currency using ratios of the purchasing power of the ruble relative to the dollar for a sample of individual goods and services produced both in the Soviet Union and the United States. Although qualitative differences between US and Soviet products are taken into account in preparing these ratios, such intangible differences as convenience of purchase and the availability of maintenance and repair services cannot be accounted for in some of them. As a result, the ratios probably overstate the purchasing power of the ruble relative to the dollar, perhaps by as much as 10 percent.

After each component of Soviet GNP has been converted into dollars and each component of US GNP has been converted into rubles, the components are added together to yield estimates of total GNP. Two ratios of Soviet to US GNP are computed: one with both economies valued in dollar prices and one with both economies valued in ruble prices. An average of the two ratios is then calculated. For 1989 this average indicates that Soviet GNP was about 50 percent of US GNP.³

This estimate of the size of the Soviet economy relative to that of the United States is often misused, especially when used as an indicator of how well off the Soviet populace is relative to US citizens. To compare relative living standards requires at a minimum that the estimates be expressed in per capita terms, and that attention be focused not on the overall levels of goods and services produced but on those goods and services directly related to consumer welfare. According to CIA estimates, in 1989 the ratio of Soviet to US GNP per capita was about 44 percent, and the per capita availability of consumer goods and services in the USSR was only 30 percent of that in the United States. Because the factors leading to an overstatement of the purchasing power of the ruble in general apply equally to consumer goods and services, the level of Soviet per capita consumption could actually be little more than one-fourth of the US level. Even if unadjusted for possible overstatement, CIA's index of per capita consumption suggests that the quality of life in the USSR is well below that in Western industrialized countries and closer to that in such less developed nations as Mexico and Portugal.

The following estimates for 1985 provide some perspective:

	Index of Per Capita GNP in 1985 (US = 100)	Index of Per Capita Consumption in 1985 (US = 100)
United States	100	100
West Germany	74	69
Japan	72	66
Spain	46	46
USSR	46	32
Portugal	34	32
Mexico	32	31

³CIA's methodology of comparing the Soviet and US economies has been documented in Joint Economic Committee, US Congress, *Consumption in the USSR: An International Comparison* (Washington, D.C.: US Government Printing Office, 1981) and Imogene Edwards, Margaret Hughes, and James Noren, "U.S. and U.S.S.R.: Comparisons of GNP," in Joint Economic Committee, US Congress, *Soviet Economy in a Time of Change*, Vol. 1, (Washington, D.C.: US Government Printing Office, 1979), pp. 369-401.

Appendix B

Soviet Economic Performance in 1989, by Sector

The USSR's economic problems worsened in 1989 according to our preliminary estimates. The output of industry, construction, and transportation all failed to grow. Agricultural production increased, but this marked a rebound from a 2-year decline. At the same time, the imbalance between consumer demand and supply became more acute as growth in money incomes far outstripped increases in the output of goods and services.

Industry

Industrial production showed no growth last year after a nearly 3-percent gain in 1988. Workers saw little reason to put in more effort on the job at a time of growing shortages of consumer goods and decline in the real value of the ruble. Increased worktime losses led to greater underutilization of production capacity, transport bottlenecks, and supply disruptions.

Energy

In 1989, for the first time since the 1940s, total energy production declined in absolute terms. *Oil* output fell 2.5 percent to 12.1 million barrels per day, forcing Moscow to draw down domestic stocks to maintain exports. Although Soviet petroleum reserves are among the world's largest, the Soviets lack the necessary technology to fully exploit major new areas in West Siberia and in the North Caspian Basin and the Barents Sea. These problems were compounded by inadequate investment, shortfalls in equipment production and installation, labor unrest, and a major administrative restructuring of West Siberia's oil industry. Production of *natural gas* rose to 796 billion cubic meters or by 3.4 percent, the smallest annual increment in more than a decade. Output suffered somewhat from supply constraints similar to those that plagued the oil industry as well as from reduced investment and the increasing costs of maintaining the vast gas pipeline network. Coal output fell by 32 million tons, the first decline in annual production since 1984. Last summer's strikes caused a direct loss of 7 million tons of coal and slowed mining operations for several months after the strike ended. Mine operations also were hampered by a shortage of railcars. *Electricity* production increased by only 1 percent. Past failure to complete sufficient fossil-fuel-fired plants and the slowdown in nuclear reactor construction have resulted in a severe shortfall in generating capacity.

Industrial Materials

Production of industrial materials (metals, chemicals, construction materials, and wood products) declined by about one-half of a percent last year, according to our estimates.

- Output of most *metal* products fell after posting healthy increases in 1988. Crude steel production declined by nearly 2 percent — largely because of shortages of coking coal and scrap — and plans for aluminum, copper, lead, and zinc went unmet.

- Output of *chemicals* fell sharply. Production of fertilizers, caustic soda, and sulfuric acid all declined in absolute terms, and ministry officials were faulted for not meeting targets for consumer goods production. Environmentalists forced a cutback in production of medicines and sulfur, and the explosion of a liquefied petroleum gas pipeline in June affected output of plastics and synthetic rubber.
- Cement production grew slightly, but output of several other major *construction materials* fell (Moscow failed to report production of glass and precast concrete products). The laggard performance of these industries coupled with ever-present transport bottlenecks delayed construction projects throughout the country. Moreover, both industrial buyers and consumers increasingly rejected deliveries of poor-quality building materials.
- In the *wood products* industry, paper and cardboard output fell, and commercial timber production was 15 million cubic meters below plan. Several pulp and paper plants were forced to close or restructure their product mix as a result of increased local and regional concern for environmental damage. Only a 7-percent rise in furniture production, measured in value terms, saved the industry from an absolute decline in output.

Machinery

Overall, machinery output posted no growth in 1989 as gains in civil machine-building output were offset by a decline in production of military hardware. With the exception of automobiles, *consumer durables* output increased as compared with 1988. But Moscow's highly touted program to convert many military production lines to civilian use made slow progress. Only a heightened priority for raw materials and investment apparently allowed the defense industries to raise output at shops traditionally dedicated to producing consumer goods.

Output of *producer durables* also rose last year, but at a slower pace than in 1988. Much of the gain, however, is very likely the result of machinery producers raising prices on the basis of spurious quality improvements to boost profits and meet plan targets. Senior officials blamed the machine builders for the slow replacement of obsolete equipment in enterprises and poor assimilation of scientific and technological advances into new models of equipment. At the end of year, according to Soviet data, the proportion of machinery in service in the USSR 20 years or longer had risen to 11 percent.

Consumer Goods

Output of the *soft goods* industry rose by only about 1 percent last year. Calculated from data in physical terms, growth rates for the major categories of light industry products all were below 1988 levels. The industry's failure to replace obsolete equipment in existing factories resulted in shortages of clothing and footwear. Excluding alcoholic beverages, growth of *processed foods* production rose by only about 1 percent. If alcoholic beverages are included — their production went up by almost 20 percent in 1989 — the industry's estimated total growth was almost 5 percent. Production of granulated sugar and vegetable oil, both of which reportedly were in short supply in state stores, grew at healthy rates, and slow but steady growth in output of processed meat and dairy products was made possible by continued stability in livestock procurements. Edible fish production fell, and smaller state purchases of fruits and vegetables forced a decline in output of some canned goods. Despite the increased production of most processed foods, shortages increased as a result of problems encountered in distributing these goods as well as from a surge in demand as a result of the hoarding of goods by households.

Agriculture

Aided by favorable weather, Soviet agricultural production reversed a 2-year downturn in 1989. After falling by 15 million tons in 1988, grain production increased to 211 million tons — about the same as in 1986 and 1987, the latest good grain years. Production of sunflower seed reached a new high, and sugar beet and potato crops were up substantially.

In the livestock sector, production of meat increased by nearly 2 percent. Inventories of cattle, sheep, and goats declined, however, and were at their lowest levels in 6 years. Because production of hay silage and other roughage crops, which account for nearly three-fifths of animal feed, also declined, Soviet farms will be hard-pressed to meet targets for increasing meat production this year.

Still, the overall increase in farm output last year was not large enough to have a substantial impact on the availability of retail food supplies in the USSR. According to Soviet commentary, the rapid growth in money incomes over the past 2 years, combined with low retail prices, sharply stimulated demand for such higher quality foods as meat, dairy products, and fruits. To cope with the excess demand, local officials instituted rationing, which in turn led to more under-the-counter sales, theft, black market activity, and hoarding. As a result, less food was available through state stores.

Transport

Freight shipments by all carriers fell by 116 million tons last year, a 2-percent drop from the previous year, and one of the transport sector's worst annual performances in decades. Pipeline and river transport managed slight increases, but shipments by other carriers fell substantially. The railroads — the main carriers of the nation's freight — performed especially poorly. Compared with 1988, shipments by rail fell by 2 percent and by 116 million tons — about 10 days' worth of shipments and the largest annual drop since World War II. Nearly half of the nation's railroads failed to meet freight shipment targets.

Most of the railroads' problems surfaced in the second half of the year when strikes, ethnic unrest, and unusually long unloading delays in major cities combined to idle up to 100,000 freight cars, nearly 5 percent of the fleet. These tieups cascaded into freight car shortages across the country. The Soviet rail system, already severely overtaxed, had no extra capacity to compensate for these disruptions, particularly in July-December, when shipping demand peaked because of the need to move the harvest, fuel for winter, and a high volume of imported consumer goods that had arrived at ports and border railroad stations. The disruptions peaked in October, when Soviet officials declared a "transportation emergency."

Foreign Trade

A surge in Soviet imports last year led to a rare deficit in the USSR's hard currency balance of trade. Hard currency imports jumped by an estimated 23 percent, following a leap of nearly 25 percent the previous year. Purchases of food, manufactured consumer goods, and equipment for light industry all increased sharply as the Soviets gave top priority to putting more consumer goods on store shelves:

- The Soviets placed \$165 million of orders with UK firms last July for footwear, soap, toothpaste, coffee, and other products.

- Early this year Japanese traders reported sharp increases in Soviet orders for cloth, shoes, detergents, medical supplies, and automobiles.
- Late last year the Soviets purchased about \$100 million worth of butter and processed chickens from the United States.

The Kremlin also has increased hard currency purchases of consumer goods from Third World countries, particularly from Thailand, South Korea, and Taiwan.

Meanwhile, hard currency exports increased by just 8 percent last year, in part because oil deliveries were about 100,000 barrels per day below the 1988 level. As a result, the balance of Moscow's hard currency trade dropped from a record \$6-billion surplus in 1987 to a \$1.4-billion deficit last year. To finance the deficit and cover debt service and other necessary expenses, Moscow stepped up its borrowing abroad. Soviet gross hard currency debt rose to about \$47 billion at the end of 1989, more than double the level in the mid-1980s; Moscow's net debt climbed to \$32 billion at the end of last year.

The rising debt, together with the problems in the domestic economy, has sparked concern on the part of some Western lenders about the USSR's creditworthiness. Despite Moscow's sizable assets and gold reserves valued at about \$28 billion, Western bankers are tightening credit and charging higher interest rates. The oversupply of Soviet commercial paper to finance imports last year contributed to the upward pressure on lending rates.

Appendix C

Tables on Soviet Economic Performance

USSR: Estimated GNP by Sector of Origin at Factor Cost

USSR: Estimated Value Added in Industry at Factor Cost

USSR: Estimated Average Annual Growth of Per Capita Consumption

USSR: Estimated Growth of GNP, Industrial Production, and Labor Productivity

USSR: Gross Fixed Capital Investment

USSR: Total Trade, 1981-89

USSR: Estimated Hard Currency Balance of Payments

USSR: Estimated Hard Currency Debt to the West

USSR: Selected Indicators of Agricultural Output

Appendix C (Continued)

Table C-1

USSR: Estimated GNP by Sector of Origin at Factor Cost
(billion 1982 rubles)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	491.8	569.5	624.8	630.3	646.7	667.1	676.6	682.6	710.3	719.5	735.2	745.8
Industry	137.9	181.3	204.2	206.5	209.3	214.3	220.4	225.1	230.7	237.8	244.7	245.1
Agriculture	139.6	124.7	125.6	122.5	133.4	141.3	138.3	132.9	147.5	141.8	141.0	145.8
Construction	42.0	51.6	51.4	51.5	50.6	52.2	53.1	54.3	56.4	57.7	59.2	59.2
Transportation	35.9	49.3	58.8	61.0	61.6	63.3	64.1	65.5	67.5	68.2	70.0	69.9
Communications	3.1	4.2	5.3	5.5	5.7	5.9	6.1	6.4	6.8	7.2	7.6	8.1
Trade	28.5	36.1	40.9	41.5	41.9	43.0	44.1	44.6	44.5	45.2	46.7	48.1
Services	93.3	109.8	124.9	127.9	130.1	133.0	136.2	139.4	142.5	147.0	151.4	155.5
Other (including military personnel)	11.4	12.6	13.6	13.7	14.0	14.2	14.3	14.3	14.5	14.5	14.5	13.9

1989 figures preliminary.

Components may not add exactly to total because of rounding.

Agriculture net of feed, seed, waste, and purchases from outside the sector.

Appendix C (Continued)

Table C-2

USSR: Estimated Value Added in Industry at Factor Cost
(billion 1982 rubles)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Industry	137.9	181.3	204.2	206.5	209.3	214.3	220.4	225.1	230.7	237.8	244.7	245.1
Ferrous metals	9.8	11.9	12.6	12.6	12.5	12.9	13.0	13.1	13.6	13.8	14.0	14.0
Nonferrous metals	5.8	7.6	8.2	8.2	8.3	8.5	8.8	9.0	9.3	9.5	9.8	9.8
Fuels	13.1	16.8	19.4	19.7	20.0	20.2	20.3	20.2	20.9	21.3	21.6	21.2
Electric power	8.1	11.4	14.2	14.5	14.8	15.3	16.0	16.5	17.1	17.8	18.2	18.4
Machinery	44.1	62.3	72.6	72.7	74.0	75.0	77.8	80.2	82.3	85.4	88.4	88.4
Chemicals	8.5	12.6	14.6	15.2	15.5	16.4	17.0	17.7	18.5	19.0	19.4	18.9
Forest products	11.1	12.6	12.3	12.4	12.5	12.9	13.3	13.5	14.1	14.5	14.9	14.9
Construction materials	9.1	11.8	12.3	12.7	12.5	13.0	13.2	13.5	14.0	14.5	14.9	15.0
Light industry	11.0	12.5	14.1	14.3	14.2	14.4	14.8	15.2	15.4	15.7	16.0	16.2
Food industry	12.0	14.7	15.7	16.1	16.6	17.1	17.5	17.2	16.4	17.0	17.7	18.5
Other industry	5.5	7.2	8.1	8.2	8.3	8.5	8.8	8.9	9.2	9.4	9.7	9.7

1989 figures preliminary.

Components may not add exactly to total because of rounding.

Appendix C (Continued)

Table C-3

**USSR: Estimated Average Annual Growth of Per Capita Consumption
(percent change)**

	1956-60	1961-65	1966-70	1971-75	1976-80	1981-85	1986	1987	1988	1989
Total consumption	3.9	2.6	4.9	3.0	1.8	0.7	-2.1	0.4	3.0	3.2
Food	3.2	1.7	4.2	2.3	0.9	-0.4	-7.2	-0.9	3.0	3.4
Soft goods	5.7	2.1	7.2	2.7	2.8	1.3	2.2	0.5	3.1	3.4
Durables	10.4	6.1	7.1	9.4	4.1	2.9	3.0	0.3	3.0	3.1
Services	3.3	4.5	4.0	2.9	1.9	1.6	1.4	2.7	3.0	2.9
Housing	3.0	2.4	2.0	1.5	1.2	1.6	1.7	2.0	2.0	1.9
Utilities	4.7	7.8	5.5	5.3	3.7	3.3	3.0	3.3	2.5	1.4
Transportation	9.3	9.0	8.2	6.3	2.2	1.7	2.3	1.4	1.3	0.5
Communications	5.4	5.7	7.6	5.4	3.7	2.9	4.6	5.9	4.1	6.2
Repair and personal care	3.5	4.8	6.2	4.3	4.0	3.0	3.1	6.3	7.5	7.1
Recreation	5.3	3.2	2.2	2.9	0.7	0.6	-0.6	0.4	0.3	0.2
Education	1.5	5.2	2.9	1.5	1.3	0.9	0.8	1.2	1.0	2.2
Health	3.5	2.2	3.2	1.6	0.8	0.8	-0.8	2.7	4.3	2.2

1989 figures preliminary.

Based on 1982 established prices.

Appendix C (Continued)

Table C-4

**USSR: Estimated Growth of GNP, Industrial Production, and Labor Productivity
(average annual percent change)**

	1966-70	1971-75	1976-80	1981-85	1986	1987	1988	1989
Gross national product	4.9	3.0	1.9	1.8	4.1	1.3	2.2	1.4
Labor productivity	2.8	1.2	0.7	1.1	3.7	1.4	3.0	0.9
Industrial production	6.0	5.6	2.4	2.0	2.5	3.1	2.9	0.2
Labor productivity	2.8	4.1	1.0	1.4	2.1	3.3	4.7	1.2

CIA's procedures for calculating total factor productivity are being revised and, therefore, estimates of total factor productivity are not available at this time.

1989 figures are preliminary.

GNP based on indexes of GNP (1982 rubles) by sector of origin at factor cost.

Appendix C (Continued)

Table C-5

**USSR: Gross Fixed Capital Investment
(billion 1984 rubles)**

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Investment	92.2	128.5	150.9	156.5	161.9	171.0	174.3	179.5	194.4	205.4	218.2	219.4
By Source:												
State	79.4	111.8	133.1	138.5	143.2	150.7	153.7	157.9	172.0	182.6	192.9	196.0
Collective farms	8.6	12.2	13.3	13.4	13.9	14.8	14.7	15.4	15.5	15.2	16.5	NA
Cooperative enterprises and organizations	2.6	2.7	2.9	2.9	3.1	3.5	3.6	3.7	4.1	4.3	4.7	NA
Private housing and apartments	1.6	1.8	1.6	1.7	1.7	2.0	2.3	2.5	2.8	3.3	4.1	NA
By Sector:												
Industry	32.5	44.9	53.3	55.3	56.8	60.5	62.7	65.5	71.0	75.0	79.5	NA
Agriculture	16.0	26.1	29.8	30.5	30.9	32.0	31.0	31.5	33.5	34.4	36.5	NA
Transportation & communication	9.0	14.4	18.1	18.8	19.8	21.6	22.3	21.9	22.8	24.0	25.1	NA
Construction	3.3	4.8	6.0	5.9	6.4	6.6	5.8	6.1	6.8	6.9	8.3	NA
Housing	15.8	19.2	21.1	22.5	24.0	25.8	27.3	28.1	30.9	33.5	35.6	NA
Trade and services	15.6	19.1	22.6	23.4	24.0	25.0	25.2	26.4	29.4	31.6	33.2	NA

Source: Narodnoye Khozyaystvo v SSSR, 1988 and earlier years; and 1989 plan fulfillment report.

NA = Not available.

Appendix C (Continued)

Table C-6

USSR: Total Trade, 1981-89
(billion current US dollars)

	Average Annual 1981-89	1981	1982	1983	1984	1985	1986	1987	1988	1989
USSR: Exports by region										
Total	95.6	79.4	87.2	91.7	91.5	87.2	97.0	107.7	110.7	109.3
Communist	57.8	43.4	47.2	51.0	51.9	53.5	65.0	70.0	71.0	67.1
Developed countries	24.2	24.4	26.2	26.7	26.4	22.5	18.8	22.7	24.6	26.5
Less developed countries	13.7	11.6	13.8	13.9	13.2	11.2	13.2	14.9	15.2	15.7
USSR: Imports by region										
Total	88.8	73.2	77.8	80.5	80.3	83.3	88.9	96.0	107.3	114.7
Communist	54.4	37.2	42.5	45.5	47.0	51.0	59.4	66.6	71.6	71.0
Developed countries	25.3	25.4	26.2	25.4	24.2	23.3	22.7	21.1	27.2	33.1
Less developed countries	8.9	10.6	9.1	9.6	9.1	9.0	6.8	7.3	8.5	10.6

Includes both hard currency trade and trade conducted with soft currency on clearing account basis.

1989 figures preliminary.

Appendix C (Continued)

Table C-7

USSR: Estimated Hard Currency Balance of Payments
(million current US dollars)

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Current account balance	-4565	1470	-387	4293	4760	4664	137	1383	5116	1172	-3243
Merchandise trade balance	-4804	1814	365	4468	4712	4727	519	2013	6164	2647	-1400
Exports f.o.b.	9453	27874	28254	31975	32429	32173	26400	25111	29092	31165	33600
Imports f.o.b.	14257	26060	27889	27507	27717	27446	25881	23098	22928	28518	35000
Net Interest	-521	-1234	-1752	-1275	-1052	-1163	-1482	-1730	-2148	-2575	-2993
Other invisibles and transfers	760	890	1000	1100	1100	1100	1100	1100	1100	1100	1150
Capital account balance	6981	284	5430	-2965	-1541	-124	1869	1794	-738	1378	4348
Change in gross debt	6786	-792	1977	-640	116	224	6804	6811	5011	1990	4120
Official debt	1492	-280	-1370	967	340	-375	463	391	480	-1240	252
Commercial debt	5294	-512	3347	-1607	-224	599	6340	6420	4532	3230	3867
Net change in assets held in Western banks	-163	-35	-166	2122	277	-664	1787	1595	-527	1119	-505
Estimated exchange rate effect	-22	-411	-1457	-817	-1070	-688	3248	3322	4977	-2205	-1722
Net credits to LDCs	715	950	870	2120	3200	2700	1700	4100	4800	5500	5665
Gold sales	725	1580	2700	1100	750	1000	1800	4000	3500	3802	3665
Net errors and omissions	-2416	-1754	-5043	-1328	-3219	-4540	-2006	-3177	-4378	-2550	-1105

1989 figures preliminary.

Change in gross debt includes additions to short-term debt.

Net errors and omissions include hard currency assistance to and trade with Communist countries, credits to developed Western countries to finance sales of oil, and other nonspecified hard currency expenditures, as well as errors and omissions in other line items of the accounts.

Appendix C (Continued)

Table C-8

USSR: Estimated Hard Currency Debt to the West
(billion current US dollars)

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Gross debt	12.5	20.5	22.5	21.9	22.0	22.2	29.0	35.8	40.8	42.8	47.0
Commercial debt	8.2	11.0	14.4	12.8	12.6	13.2	19.5	25.9	30.4	33.7	37.6
Government and government-backed debt	4.3	9.5	8.1	9.1	9.4	9.1	9.5	9.9	10.4	9.1	9.4
Assets in Western banks	3.8	10.0	9.8	11.9	12.2	11.5	13.3	14.9	14.4	15.5	15.0
Net debt	8.7	10.6	12.7	10.0	9.8	10.7	15.7	20.9	26.4	27.3	32.0

1988 and 1989 figures preliminary.

Estimates of government-backed and commercial debt are measured in current dollars and reflect fluctuations in exchange rates. Commercial debt also includes estimates for promissory notes held outside banks.

Appendix C (Continued)

Table C-9

USSR: Selected Indicators of Agricultural Output

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Value of output (billion rubles)	112.5	109.4	113.7	112.5	120.8	128.5	127.7	125.8	136.5	133.1	133.5	138.1
Commodity production (million metric tons)												
Grain	186.8	140.1	189.1	158.2	186.8	192.2	172.6	191.7	210.1	211.4	195.0	211.1
Potatoes	96.8	88.7	67.0	72.1	78.2	82.9	85.5	73.0	87.2	75.9	62.7	72.0
Sugar beets	78.9	66.3	81.0	60.8	71.4	81.8	85.3	82.4	79.3	90.7	87.9	97.5
Sunflower seed	6.1	5.0	4.6	4.7	5.3	5.1	4.5	5.3	5.3	6.1	6.2	7.0
Cotton	6.9	7.9	9.1	8.4	7.9	8.2	8.1	8.8	8.2	8.1	8.7	8.6
Vegetables	21.2	23.4	27.3	27.1	30.0	29.5	31.5	28.1	29.8	29.2	29.3	28.5
Meat	12.3	15.0	15.1	15.2	15.4	16.4	17.0	17.1	18.1	18.9	19.7	20.0
Milk	83.0	90.8	90.9	88.9	91.0	96.5	97.9	98.6	102.2	103.7	106.8	108.1
Wool	0.42	0.45	0.44	0.46	0.45	0.46	0.47	0.45	0.47	0.46	0.48	0.47
Eggs (billion)	40.7	57.4	67.9	70.9	72.4	75.1	76.5	77.3	80.7	82.7	85.2	84.6

1989 figures preliminary.

Value of output is net of feed, seed, and waste, in constant 1982 prices.

Grain figure is bunker weight. To be comparable to Western measures, an average reduction of 11 percent is required.

Cotton figures for 1981, 1983-84 estimated.